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# Melanoma: The Other Skin Cancer

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Much less common than nonmelanoma skin cancer, melanoma accounts for only 4 percent of all skin cancers, but is responsible for about 70 percent of skin cancer deaths.

Melanoma originates from mutations occurring in melanocytes—cells that produce melanin, the pigment that protects deeper layers of the skin from UV rays.

Melanoma is usually curable when caught early—the five-year survival rate for early-stage disease is more than 90 percent—but the risk of recurrence is high. When the disease reaches the advanced stage, it is very difficult to treat. Response rates with dacarbazine, the only approved chemotherapy for melanoma, average only 20 percent and complete responses are rare. Standard treatment for melanoma is surgery to remove the cancerous tissue. If the melanoma has progressed, chemotherapy, radiation or cytokine therapy (Intron-A [interferon alpha] and Proleukin [interleukin-2]) is typically given. Metastatic melanoma has fewer options, but research has uncovered possible new weaponry against this deadly disease.

Drugs that treat other cancers are also proving useful for melanoma, including the brain cancer drug, Temodar (temozolomide) and Nexavar (sorafenib), which is active against kidney cancer. Phase III studies with each drug are currently under way for melanoma.

Also in testing for melanoma are two monoclonal antibodies, MDX-010 (ipilimumab) and ticilimumab, that bind to and disable CTLA-4, a naturally occurring molecule that diminishes the immune response. Given fast-track status by the Food and Drug Administration, MDX-010 is in phase III testing for advanced metastatic melanoma and has also shown the ability to shrink tumors in patients with advanced kidney cancer. Ticilimumab is also being developed for melanoma and kidney cancer.

TNFrade treats melanoma a bit differently by stimulating production of a potent immune system protein called tumor necrosis factor-alpha from inside the tumor. A phase I study of 30 solid tumor patients treated with TNFrade plus radiation included three melanoma patients, all of whom had complete disappearance of the tumor. Larger TNFrade studies for melanoma are ongoing.